U.S.FOREST SERVICE

Chief

February 25, 1949

R. V. ROCHELEAU, Regional Forester, By

2, CONTROL, Insect, R-3, Annual Report, C.Y. 1948

There are attached copies of reports by Mrs. Massey and Buchanan covering cooperative and investigative insect control work performed in Region 3 last year by the BEPQ staff at Fort Collins, Colorado.

We do not anticipate any direct control measures during 1949. Several areas will bear watching. The main ones are: (1) the barkbeetle area on the Lincoln; (2) the Apache windthrow area (salvage of 6-1/2 MM has been completed); and (3) an unsightly but, so here, not too serious outbreak of Eotetranychus scale, also on the Apache.

The moisture situation will apparently be favorable this spring which should benefit some of our drought-weakened stands.

We will continue to call on Fort Collins personnel to "trouble shoot" our insect problems as they occur

Attachments -
Carson)
Lincoln) names
Santa Fe)

xc-Chief
cc-Dr. Hagunt

FNNewnham:ASG

8461

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Agricultural Research Administration

308 Agric. Bldg., Colo. A & M
Fort Collins, Colorado
November 2, 1948

To : Supervisor, Carson National Forest, Taos, New Mexico

From : M. D. Wygant, Entomologist in Charge

Subject: Spruce Budworm Studies on the Carson

Enclosed is a copy of a memorandum entitled "Memorandum Regarding Budworm Collection, Carson National Forest in 1948" prepared some time ago by M. D. Buckanan.

We wish to thank you for the cooperation extended to us in the work carried out at El Rito.

We were disappointed in the number of parasites that were obtainable in the area; certainly, the budworm larvae were plentiful. The lack of parasites in effective numbers may account for the long duration of the infestations on the Carson.

cc:Carson

MEMORANDUM REGARDING BUDWORM COLLECTIONS
CARSON NATIONAL FOREST IN 1948

Budworm collections were made in New Mexico with the primary object of obtaining the parasites Ceromasia auricaudata and Phytodietus fumiferana. The budworm population was found to be high in many places in northern New Mexico, but it was decided to work out of El Rito, because this small village was within a few miles of heavy budworm infestations, and the Forest Service very kindly provided space for the rearing work at the ranger station. The Ranger J. Paul Martinez and his assistant Eugene Wilton were most cooperative and assisted in every way possible as did David Scott of the Carson Forest Office in Taos.

With the aid of 12 Spanish American girls, 106,698 budworm larvae, and an estimated 15,000 pupae were collected. The collections were started June 24 and the work was terminated July 8. A total of 119.75 man days other than my own were used. The original plan was to have men and boys do the collecting and girls sort the mate ial in the laboratory, but men and boys over 16 years of age could not be found. The girls were willing and hard workers, but without training, which required constant supervision both in the field and laboratory.

The collections were largely made in the El Rito creek drainage from slopes that faced more or less in all 4 directions. Some of the material was from the upper end of a slope that drains into the Vallecitos. The host trees were largely white fir with a few Douglasfir mixed in. The collections were from small trees and lower branches of larger ones. The first collections were made at lower elevation because the larvae were larger than at the higher levels, but the higher elevation were worked when the larvae were in the late instars. The infestation was well distributed, but there has been less damage in the past to trees in the lower levels than on the higher ridges. Many spike tops have developed in trees at the higher elevations from repeated defoliation, but spike tops are not so common in the lower canyon bottoms.

The method used to collect the larvae was to snip off the tip in which a larva was feeding and drop it and the larva into a bucket especially designed for that purpose. These buckets or cans were suspended from the neck of the collector by a strip or small rope. This made it possible for the collector to work with both hands. When a can was filled the contents were emptied into cloth covered field trays which were taken in at night and emptied into open top trays at the laboratory. A band of tanglefoot was placed inside the laboratory trays near the top of the frame to prevent larvae from escaping. This worked rather well but some larvae got over the band on bodies of other larvae that became fast in the tanglefoot. The contents of the trays were examined 2 to 3 days after they were collected. The budworm pupae were removed and placed in cartons which were examined each day or two. The parasites were placed in separate cartons and kept in a cool basement. El Rito has no electricity and refrigeration was not available, but material held in the basement seemed to keep in good condition. The number of parasites obtained (1825 puparia) from the enormous number of budworm larvae and pupae was unbelievably small. One shipment of parasites was sent via airmail from El Rito to New Haven laboratory on July 8 and the other from Fort Collins, Colorado on July 14. The Ceromasia auricaudata were separated from the other puparia

and placed loose in half pint Sealright cartons. The Gnatoma (Winthemia) and Madreymia were placed loose in other cartons, but they had other puparia in with them. These cartons were then placed in a cardboard box and mailed. Time did not permit more than a very hasty examination of the puparia, and things other than Ceromasia were sent with the hope that there might be something among them that is not native to the east. Mr. P. B. Dowden of the New Haven laboratory reports that all the material was in very poor shape when it arrived in New Haven. This is hard to understand because the number of puparia obtained was so low that they were given special attention.

It should be mentioned that fly eggs were first observed about July 3, on larvae that were collected and their numbers seemed to increase after that. It was estimated that less than one percent of the field larvae had pupated when the work was teminated July 8, but the high temperature in the laboratory caused early pupation of larvae in the trays. Only pupae that had formed in the field were collected the last tow days in an effort to determine whether they might have more parasites than pupae that developed in the laboratory. The results indicate that considerably more parasites were in the field collected pupae because a total of 1029 puparia have been obtained from the estimated 15,000 field collected pupae plus 2000 to 3000 late pupae from the trays that were combined with them. This makes a sharp contrast to only 786 puparia from the great mass of tray formed pupae.

Budworm development this year was later than normal due in part to unseasonable cool rains in the mountains. It is a question whether this might have influenced parasite activity, and it is unfortunate that late collection could not be made. There is every reason to believe that budworm population will be high again in 1949 and perhaps late collection can be made then.

Submitted by,

W. D. BUCHANAN, Entomologist
August 2, 1948

cc: Craighead
Brown
Regional Forester
Carson N.F.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Administration

Bureau of Entomology and Plant Quarantine

308 Agric. Bldg., Colo. A & M
Fort Collins, Colorado
November 4, 1948

MEMORANDUM ON EXAMINATION OF INSECT INFESTATIONS
ON THE LINCOLN NATIONAL FOREST
September 21, 1948

On September 21, 1948 the writer, accompanied by Mr. Fred Newnham of the Office of Timber Management Region III and by Assistant Supervisor Keeney of the Lincoln National Forest examined the bark beetle outbreaks in the Sacramento Mountains and the White Mountain areas of that Forest.

The area examined in the Sacramentos were the lands immediately surrounding Cloudcroft, New Mexico. The infestations in this area remain about static, there being no sharp increase in trees infested during the current year. Infested trees occur for the most part in groups of from 2-3 and are scattered more or less over the entire division. The insect species involved are the same as reported last year: Dendroctonus barberi, Dendroctonus convexifrons and Ips cloudcrofti.

During the growing season, precipitation in the area has been more nearly normal and it is felt that with continued favorable moisture conditions that the infestation will die out. However, the infested areas will bear close watching as the potential exists for severe future outbreaks.

During the fall of 1947 a severe infestation of Dendroctonus convexifrons and D. barberi was reported by N. D. Bygant as occurring in the White Mountain area. The infestation was scattered throughout the ponderosa pine type with the greatest concentration northeast of Ruidoso, New Mexico and visible from the Monjean Lookout. This infestation has shown a radical decline during the past year with the exception of a few hundred infested trees which are present on the divide between Little Creek and Eagle Creek. The infestation surrounding the town of Ruidoso occurs in scattered groups of from 3-5 and seems to be on the decline. As stated in the previous paragraphs, the infestation will bear watching as the potential exists for future severe outbreaks. It is felt, however, that with continued favorable moisture conditions the infestation in this area will also gradually decline.

Submitted by,

/s/ C. L. KEENEY
Entomologist

cc:Regional Forester
Craighead

COPY

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Administration

Bureau of Entomology and Plant Quarantine

303 Agric. Bldg., Colo. A & M
Fort Collins, Colorado
November 4, 1948

MEMORANDUM ON EXAMINATION OF INSECT INFESTATIONS
ON THE SANTA FE NATIONAL FOREST
September 24, 1948

The writer, accompanied by Mr. Fred Newnham of the Office of Timber Management, Region III, and Ranger Ground, examined a reported heavy infestation of the tent caterpillar in the Holy Ghost area of the Santa Fe National Forest. The infestation supposedly was present in the aspen stands of that area. The reported infestation was non-existent. Only a few old webs were found and these were quite scattered.

A heavy infestation of the spruce budworm was found to exist on spruce at the head of Holy Ghost Creek and continues heavy about halfway down the canyon. If the region is interested in doing control work in the recreational areas of this canyon, DDT has been found to be quite effective when applied as a hydraulic spray with high pressure equipment. The material can be applied any time after May 1. Experimental aerial spraying has given satisfactory results this past season in Oregon.

Submitted by

/s/ C. L. MASSEY
Entomologist

cc: Regional Forester (3)
Craighead